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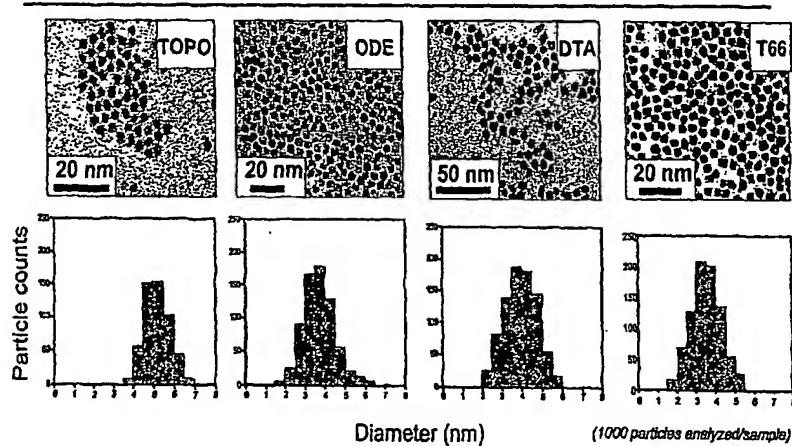
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[Continued on next page]

(54) Title: METHODS AND MATERIALS FOR CDSE NANOCRYSTAL SYNTHESIS



D (TEM): 5.2 nm  
Rel. SD: 13%

D (UV-vis): 4.0 nm

D (TEM): 4.5 nm  
Rel. SD: 15%

D (UV-vis): 3.1 nm

D (TEM): 3.8 nm  
Rel. SD: 18%

D (UV-Vis): 2.7 nm

D (TEM): 3.5 nm  
Rel. SD: 17%

D (UV-Vis): 3.3 nm

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(57) Abstract: New methods for the synthesis of nanocrystals/quantum dots are disclosed. The methods comprise use of reasonably-priced and commercially available heat transfer fluids (such as Dowtherm® A) as solvents to synthesize CdSe nanocrystals. Separation of nucleation and growth is achieved by quenching the reaction solution with relatively cold (room temperature) solvent to lower the solution temperature. Quenching may be followed by raising the solution temperature, to allow controlled growth to take place.

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